ABSTRACT OF THE DISCLOSURE

An apparatus that continuously monitors the arterial pressure measured by a pressure sensor in an artery, which pressure is regarded as the reading Pao that approximately corresponds to the aortal pressure. In principle, the arterial pressure can be measured in the aorta, near the aorta, or in the arterial tree. To provide a second reading, the apparatus, via the input channel, continuously monitors the central venous pressure (CVP), which is regarded as the reading PIT that approximately corresponds to the intrathoracic pressure (ITP). The third reading is provided via the input channel as a reading Z which expresses the thoracic compliance. Via known algorithms of the pulse contour analysis, the apparatus calculates the stroke volume variation, using as the determining pressure the transmural pressure which is calculated according to the formula

$$P_{transmural} = Pao - f(C) * PIT.$$

The cardiac volume responsiveness indicator (CVRI) is calculated for mechanical positive respiration according to the formula

$$CVRI = k * (SVV / \Delta CVP)$$

or for spontaneous breathing according to the formula

$$CVRI = 1 - m * (\Delta CVP / SVV).$$